

SENSORS: Temperature Temperature Controllers

			Output	Output	Accuracy		Linearity	Operating Range	Spec'd Range	Vref Output	Digital Output	Hysteris	Supply Range	Iq	s/down	TO-52	Flatpack	Packages				DIP	Price 1K	Comments
Part Number			25°C	Scale Factor	25°C	Tmax	°C	°C	°C	Volts		°C	Volts	uA	uA									
Current Output																								
AD	590	J	298.2uA	1 uA/°K	±5uA	±10uA	1.5	-55 to +150	-55 to +150				+4 to +30	Iout=Iq			x	x					\$2.10	
AD	590	K	298.2uA	1 uA/°K	±2.5uA	±5.5uA	0.8	-55 to +150	-55 to +150				+4 to +30	Iout=Iq			x	x					\$4.70	
AD	590	L	298.2uA	1 uA/°K	±1uA	±3uA	0.4	-55 to +150	-55 to +150				+4 to +30	Iout=Iq			x	x					\$10.48	
AD	590	M	298.2uA	1 uA/°K	±0.5uA	±1.7uA	0.3	-55 to +150	-55 to +150				+4 to +30	Iout=Iq			x	x					\$22.10	
AD	592	A	298.2uA	1 uA/°K	±2.5uA	±3.5uA	0.5		-25 to +105				+4 to +30	Iout=Iq					3				\$1.64	
AD	592	B	298.2uA	1 uA/°K	±1uA	±2uA	0.4		-25 to +105				+4 to +30	Iout=Iq					3				\$5.10	
AD	592	C	298.2uA	1 uA/°K	±0.5uA	±1uA	0.35		-25 to +105				+4 to +30	Iout=Iq					3				\$7.31	
TMP	17	F	298.2uA	1 uA/°K	±2.5uA	±3.5uA	0.5		-40 to +105				+4 to +30	Iout=Iq						8			\$2.70	
TMP	17	G	298.2uA	1 uA/°K	±3.5uA	±4.5uA	0.5		-40 to +105				+4 to +30	Iout=Iq						8			\$1.80	
ADT	18	G	250uA	2 uA/°C	±3uA	±4uA	1	-40 to +150	-40 to +150				+2 to +7	Iout=Iq	Yes			x		x				w/SHUTDOWN
ADT	18	F	250uA	2 uA/°C	±2uA	±3uA	1	-40 to +150	-40 to +150				+2 to +7	Iout=Iq	Yes			x		x				w/SHUTDOWN
ADT	19	G	250uA	5 uA/°C	±3uA	±4uA	1	-40 to +150	-40 to +150				+2 to +7	Iout=Iq	Yes			x		x				w/SHUTDOWN
ADT	19	F	250uA	5 uA/°C	±2uA	±3uA	1	-40 to +150	-40 to +150				+2 to +7	Iout=Iq				x		x				w/SHUTDOWN
Ratiometric Output																								
AD	22100	K	1.375V	(Vdd/+5V)*22.5 mV/°C	±2	±4	1%FS	-50 to +150	0 to 100				+4 to +6	650				x		8			\$0.98	Vout=Vdd/5V*[1.375*Vdd+(22.5mV/C*Ta)]
AD	22100	A	1.375V	(Vdd/+5V)*22.5 mV/°C	±2	±4	1%FS	-50 to +150	-40 to +85				+4 to +6	650				x		8			\$2.13	Vout=Vdd/5V*[1.375*Vdd+(22.5mV/C*Ta)]
AD	22100	S	1.375V	(Vdd/+5V)*22.5 mV/°C	±2	±4	2%FS	-50 to +150	-50 to +150				+4 to +6	650				x		8			\$2.34	Vout=Vdd/5V*[1.375*Vdd+(22.5mV/C*Ta)]
AD	22103	K	0.25V	(Vdd/+3.3V)*28mV/°C	±2	±2.5	.5%FS	-50 to +150	0 to 100				+2.7 to +3.6	600				x		8			\$1.13	Vout=Vdd/5V*[1.375*Vdd+(28mV/C*Ta)]
Voltage Output																								
TMP	35		250mV	10mV/C ±.2mV	±2>3C	±3>4C	.5°C	-55 to +150	-40 to +125				+2.7 to +5.5	50		x			8		8		\$0.85	
TMP	36		750mV	10mV/C ±.2mV	±2>3C	±3>4C	.5°C	-55 to +150	-40 to +125				+2.7 to +5.5	50		x			8		8		\$0.85	
TMP	37		500mV	20mV/C ±.4mV	±2>3C	±3>4C	.5°C	-55 to +150	-40 to +125				+2.7 to +5.5	50		x			8		8		\$0.85	
ADT	45		250mV	10mV/C ±.2mV	±2>3C	±3>4C	.5°C	-55 to +150	-40 to +125				+2.7 to +5.5	50						3			\$0.85	
ADT	50		750mV	10mV/C ±.2mV	±2>3C	±3>4C	.5°C	-55 to +150	-40 to +125				+2.7 to +5.5	50						3			\$0.85	
Digital Output, equations apply to both models																								
Equations for TMP03/04 apply to both models																								
TMP	03		35HZ	°C=235-(400*T1)/T2	±2		±1	-55 to +150	-40 to +100	1 Open col			+4.5 to +7	1000				x	8	8			\$2.49	Pulse Width Modulated Output
TMP	04		35HZ	°F=455-(720*T1)/T2	±2		±1	-55 to +150	-40 to +100	ttl/cmos			+4.5 to +7	1000				x	8	8			\$2.49	Pulse Width Modulated Output
AD	7416	A	10 Bits	°C=(-103C+ADC Code/4)	±2	±3	±1/4 lsb	-55 to +125	-55 to +125	2.5V	ttl/cmos		+2.7V to +5.5	1300	1					8			\$1.72	10 A/D, I2C I/O
AD	7416	B	10 Bits	°F=455-(720*T1)/T2	±1	±2	±1/4 lsb	-55 to +125	-40 to +85	2.5V	ttl/cmos		+2.7V to +5.5	1300	1					8			TBD	10 A/D, I2C I/O
AD	7816	A	10 Bits	°C=(-103C+ADC Code/4)	±2	±3	±1/4 lsb	-55 to +125	-55 to +125	2.5V	ttl/cmos		+2.7V to +5.5	1300	1					8			\$1.72	10 A/D, SPI I/O
AD	7816	B	10 Bits	°F=455-(720*T1)/T2	±1	±2	±1/4 lsb	-55 to +125	-40 to +85	2.5V	ttl/cmos		+2.7V to +5.5	1300	1					8			TBD	10 A/D, SPI I/O
Temperature Controllers																								

SENSORS: Temperature Temperature Controllers

			Output	Output	Accuracy	Linearity	Operating Range	Spec'd Range	Vref Output	Digital Output	Hysteris	Supply Range	Iq	s/down	TO-52	Flatpack	TO-92	Packages	SOIC	SOT23	DIP	Price	1K	Comments
Part Number			25°C	Scale Factor	25°C	Tmax	°C	°C	Volts		°C	Volts	uA	uA										
ADT	05		na	na	±2	±3	na	-40 to +150	-40 to +125	na	1 Open collector	4	+2.7 to +7						8	6		\$1.25		User programmable
AD	22105	A	na	na	±2	±2	na	-40 to +150	-40 to +150	na	1 Open collector	4	+2.7 to +7						8	6		\$1.25		User programmable
AD	22106		na	na			na	-40 to +150	-40 to +150	na	2 Open collector	4	+2.7 to +7						8	6		\$1.40		User programmable
ADT	80		na	na	±3	±5	na	-40 to +125	-40 to +125	na	1 Open collector	Prgm 2, 4, 7°C	+2.7 to +5	300				8	8					CPU Thermal Mgt Circuit
TMP	12		na	na	±3	±5	.5typ	-40 to +125	-40 to +150	2.5V ±10mV	2 Open collector	Ext Set	+4.5 to +12	600					8	8		\$2.11		Controller, w/window comparator heater input and
TMP	01	E	1.49V	5 mV/°K	±1.5	±3	.5typ	-55 to +150	-40 to +150	2.5V ±5mV	2 Open collector	Int Prgm	+4.5 to +13.2	800				14	8		8	\$1.95		Controller, w/window comparator
TMP	01	F	1.49V	5 mV/°K	±3	±5	.5typ	-55 to +150	-40 to +150	2.5V ±10mV	2 Open collector	Int Prgm	+4.5 to +13.2	800				14	8		8	\$1.95		Controller, w/window comparator
ADT	10	G	750mV	10 mV/°K	±3	±4	.5typ	-55 to +150	-40 to +125	2.048V ±10mV	1 Open col	Prgm 1,2,4°C	+4.5 to +5.5	120	Yes			8	8		8			Controller, w/1 comparators, sleep mode
ADT	10	F	750mV	10 mV/°K	±2	±3	.5typ	-55 to +150	-40 to +125	2.048V ±10mV	1 Open col	Prgm 1,2,4°C	+4.5 to +5.5	120	Yes			8	8		8			Controller, w/1 comparator, sleep mode
ADT	14	G	1.49V	5 mV/°K	±3	±5	.5typ	-55 to +150	-40 to +125	2.5V ±10mV	4 Open col	Prgm .6, 1.5, 5°C	+4.5 to +5.5	500	Yes				16		16			Controller, w/4 comparators, sleep mode
THERMOCOUPLE SIGNAL CONDITIONERS w/set point mode operation																								
AD	594	A	0.25	10 mV/°C	3	2.5		J COUPLE	0 to 50		1 Open col		+5V> ±15V	300							14	\$5.95		Set point mode operation
AD	594	C	0.25	10 mV/°C	1	1.2		K COUPLE	0 to 50		1 Open col		+5V> ±15V	300							14	\$10.29		
AD	595	A	0.25	10 mV/°C	3	2.5		J COUPLE	0 to 50		1 Open col		+5V> ±15V	300							14	\$5.95		Set point mode operation
AD	595	C	0.25	10 mV/°C	1	1.2		K COUPLE	0 to 50		1 Open col		+5V> ±15V	300							14	\$10.29		
AD	596	A	0.282	10 mV/°C	4			J COUPLE	+25 to +100		1 Open col	prgm	+5V> ±15V	160			TO-100				8	\$6.20		Set point controller
AD	597	A	0.282	10 mV/°C	4			K COUPLE	+25 to +100		1 Open col	prgm	+5V> ±15V	160			TO-100				8	\$6.20		